UNDERSTANDING NOISE HAZARDS

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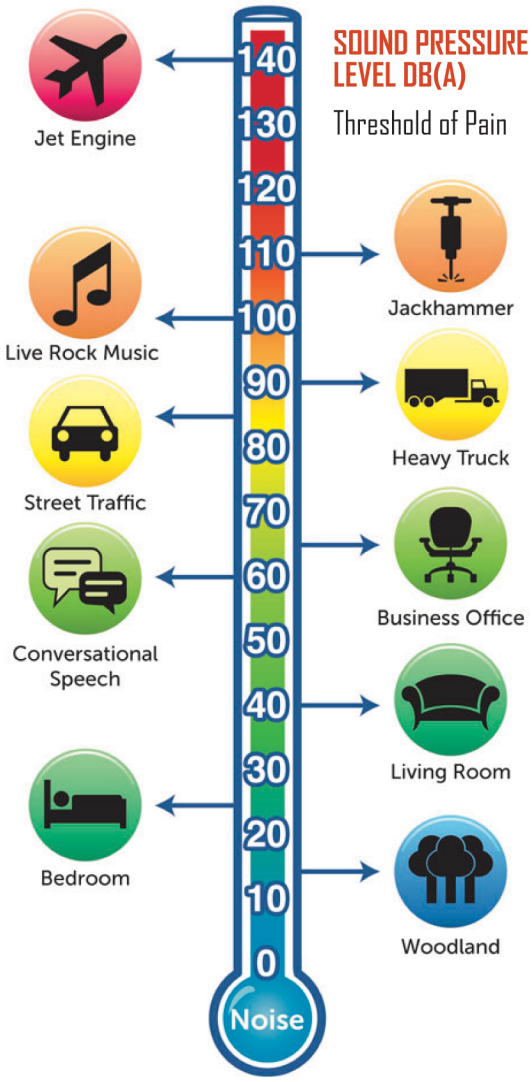
NOISE

Noise is one of the most common occupational/recreational health hazards. Excessive noise exposure, without proper use of hearing protection, is the most common cause of hearing loss in the military. According to the National Institute of Health (NIH) report, approximately 15 percent of Americans, age 20-69, have noise induced hearing loss related to occupational or recreational noise exposures. Hearing loss from noise is permanent.

TYPES OF NOISE

STEADY-STATE NOISE can be continuous or intermittent noise that lasts longer than 1 second. Steady-state noise becomes hazardous to your hearing when it reaches 85 dBA for 8 hours. Higher levels of noise become hazardous with much shorter exposure times. Hearing protection must be worn when noise is 85 dbA or greater. Both linear and non-linear hearing protection devices may be used to protect against steady-state noise exposures. However, non-linear hearing protectors MUST be used in their linear (or closed) mode setting.

NOISE THERMOMETER



IMPULSE NOISE is a high level, short-duration sound energy which lasts for less than one second (i.e. gunfire, firecracker). Impulse noise greater than 140 peak decibels (dBP) is hazardous to your hearing.

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TYPES OF HEARING PROTECTION - LINEAR & NONLINEAR

LINEAR EARPLUGS provide protection from steady-state hazardous noise.

HAND-FORMED EARPLUGS:

- Do not require medical fitting.
- Are disposable, should be worn once and not re-used.

- Most appropriate for one-time exposures to hazardous noise such as at concerts or sporting events.
- Learn how to properly insert and use disposable earplugs to ensure you get the full benefit of your hearing protection.

TRIPLE AND QUAD FLANGE EARPLUGS

- Requires fitting by medically trained personnel.
- Available in different sizes (small, medium and large).

- Used for both steady-state and impulse noise exposures where effective communication is not required (e.g. engines, lawn mowing).
- Medically trained personnel must examine the fit and condition of these earplugs at least annually.

NON-LINEAR EARPLUGS:

- Serve as earplugs for either steady state noise or impulse noise.
- Available in three sizes, designed to fit most ear canals.
- Requires fitting by medically trained personnel.
- The user must select protection for impulse or steady noise exposures.

- The closed position protects against steady-state noise hazards such as generator, vehicle, and aircraft noise.

- The open position protects against impulse noise hazards, such as weapon fire and blasts. The open position allows you to hear softer sounds such as speech, while providing hearing protection when exposed to weapons fire.

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PROPER INSERTION PROCEDURES

(DISPOSABLE EARPLUGS)

Simply roll down and compress the entire earplug to a cylinder, crease free, small enough to slide easily into the ear canal.

Insert the earplug into the ear and hold the earplug in place (count to five) or until it expands to fill the ear canal.

HAZARDOUS NOISE

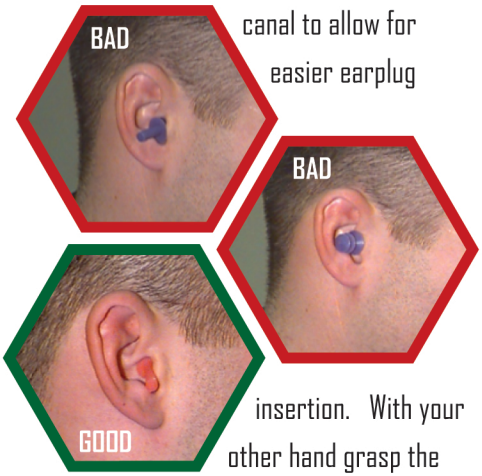
WARNING SIGNS of unprotected exposure to hazardous noise include:

- You can't hear someone talking three feet away.
- You have a feeling of "fullness" in your ears after leaving a noisy area.
- You hear ringing or buzzing (tinnitus) in your ears immediately after exposure to noise.
- You have difficulty understanding speech (you can hear people talking but cannot understand what they are saying) after exposure to noise.

PROPER INSERTION PROCEDURES

(RE-USABLE EARPLUGS)

Reach over the head with the hand opposite the ear being fitted, and pull top of ear upward and outward to straighten your ear canal to allow for easier earplug



insertion. With your other hand grasp the stem of the earplug and gently insert the earplug into the ear canal until the outer flange is coupled against the ear canal opening and you feel a good airtight seal between the ear canal and the earplugs. Note: Remove your earplugs with a slow twisting motion to break the airtight seal.

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SIGNS OF A GOOD FIT

THREE SELF CHECKS

1. Listen to your voice. Count to five (outloud) and listen to the sound of your voice. It should sound deeper and more full or muffled with the earplugs properly inserted. If your voice sounds the same with the earplugs in, then you do not have a good fit. Reposition and try again.
2. Tug Test—Reach up and tug on the stem of the earplug. If you have it in properly you will feel resistance when you tug on the stem. If the earplug easily comes out without resistance, then you do not have the earplug in properly. Reposition and try again.
3. Listen to your ears. Cup your ears with your hands and then take your hands away from your ears. If you have your earplug in properly, you should not notice a difference in the sound. If you do not notice a difference in the sound, you do not have the earplug in properly. Reposition and try again.

NOISE MUFFS cover the external ears with cups lined with sound-deadening material, to protect the ears from hazardous noise. Noise muffs consist of a headband that fits over the top or back of the head. Noise muffs must be worn with:

- The headband adjusted for a snug fit.

- Earcup seals that fit snugly around eyeglass temples. Even small leaks will permit noise to enter the ear canal.
- The proper foam lining in place.
- Do not remove or add foam or cotton to the linings of noise muffs, even when cleaning, as this will change the noise reduction characteristics of the noise muff.
- The acoustic filler is needed to maintain adequate noise attenuation.
- Some manufacturers allow the acoustic filler in their noise muffs to be replaced once it starts to degrade.
- Upon inspection, replace the filler if it torn or looks worn. If the filler cannot be replaced, new noise muffs are required.
- Good for intermittent noise exposure.
- Adjust headband for a snug fit.
- Both earcups must be in complete contact with the head (no glasses).

Note: In some situations, wearing noise muffs is impractical. Noise muffs are incompatible with certain types of required headgear and are unsatisfactory in warm temperatures or limited space areas where earplugs are preferred.

For additional information regarding hearing protection, contact your local audiologist.

If you notice any of the signs and symptoms of noise exposure such as those listed below, make sure you have properly fitted hearing protection and wear your hearing protection whenever you are exposed to hazardous noise.

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